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EXAMINER

TILLMAN, JR, REGINALD S

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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

DETAILED ACTION

Claim Objections

1. Claims 28-52 objected to because of the following informalities: Claim 28 depends on claim 27, but there is no claim 27. For purposes of examination the claims have been renumbered per Rule 1.126 and all references to claim 27 have been changed to claim 26.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 26, 28, 31-35, 37-44, 47, and 48 are rejected under 35 U.S.C. 102(b) as being anticipated by Lloyd (US 6,931,994).

Re claims 26, 28, 31-35, 37-44, 47 and 48, Lloyd teaches a warhead (Figs 1A, 1B) having a longitudinal axis, comprising: a first part (14) comprising a first explosive section, a casing (Fig 2, 210, 212, etc.), and a plurality of projectiles (24) enclosed in the casing, wherein detonation of the first explosive section results in acceleration of the projectiles in a direction essentially radial to the longitudinal axis (Fig 1B); and a second part (16) comprising a second explosive section and a control element (implied) configured to control working of the warhead as a function of a control signal, wherein the control element is configured to control detonation and target selection of the warhead and to receive signals permitting modification of at least one of target selection

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during firing or in flight (Fig 1B), wherein the first part and the second part are arranged relative to each other along the longitudinal axis, wherein the control element comprises a processor (implied); wherein the control element is designed to detonate at the first explosive section as a function of the control signal (Fig 1B); wherein the control element is configured to control the working of the warhead such that the first explosive section is detonated at a first time and a second explosive section is detonated at a second time (Figs 1B, 1C); wherein the first time and the second time are separated in time; wherein the first time occurs prior to the second time; wherein the casing comprises at least two segments that are configured to detach from the warhead on detonation of the first explosive section in order to permit dispersal of the projectiles (212, 214); wherein the casing comprises segments elongated essentially parallel to the longitudinal axis (Fig 2); wherein the casing comprises a plurality of elongate segments (Fig 2); further comprising at least one band (Fig 2, 226) configured to hold the casing in place; a fastener (224) configured to hold the elongate segments in place, wherein the fastener is arranged at one end of the first part remote from the second part (Fig 2); wherein the elongate segments together form an essentially pointed nose section (18) on one end of the first part remote from the second part; wherein the casing comprises a plurality of modules (212, 214) arranged along the longitudinal axis; wherein the modules are arranged up against each other and are detachably fixed to each other such that together the modules form the casing (Fig 2), and wherein the modules can readily be released from one another by an increase in pressure in the warhead; wherein the control signal is transmitted via a line (implied, wire connection for

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example); wherein the control element comprises a storage element configured to store information which represents the control signal (implied).

Re claims 49, 51, and 52, Lloyd applies as recited in claim 26 and also teaches a propulsion unit configured to propel the missile in a direction of flight; a central unit (implied); a receiver (implied; receives info from the control element to detonate).

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 29 and 30 rejected under 35 U.S.C. 103(a) as being unpatentable over Lloyd (US 6,931,994) in view of Grandgent et al. (US 2,944,763).

Re claims 29 and 30, Lloyd applies as recited, but does not teach that the control element receives signals from an authorized user, or that the authorized user is a combat control station. Grandgent teaches a warhead (13) configured to receive signals from an authorized user (16), wherein the authorized user is a combat control station (Fig 2). A warhead having a control element that receives signals from an authorized user allows selective control of the warhead during flight. Therefore, it would have been obvious for one skilled in the art to modify the control element taught by

Lloyd to receive signals from an authorized user to allow for selective control of the warhead during flight.

6. Claim 46 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lloyd (US 6,931,994).

Re claim 46, Lloyd implicitly teaches that the control signal is transmitted, but not that the control signal is transmitted wirelessly; however; wireless transmission is commonly known in the art. It would have been obvious for one skilled in the art to modify the control system to transmit signals wirelessly. The motivation would simply be to use known devices and methods to transmit signals wirelessly.

7. Claim 50 is rejected under 35 U.S.C. 103(a) as being unpatentable over Lloyd (US 6,931,994) in view of Lloyd et al. (US 6,598,534).

Re claim 50, Lloyd applies as recited in claim 49, but does not teach that the missile is configured to release the warhead from the propulsion unit as a function of information on a target. Lloyd et al. teaches a missile configured to release the warhead from the propulsion unit as a function of information on a target (Fig 1). It would have been obvious for one skilled in the art to modify the warhead taught by Lloyd to be in accordance with the warhead taught by Lloyd et al. The motivation would be to eject the warhead from the missile so that it would be in an optimal position to strike the target.

Allowable Subject Matter

8. Claims 35 and 36 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims. The following is a statement of reasons for the indication of allowable subject matter: The prior art does not teach, nor is it obvious (either alone or in combination) a warhead having a first and second explosive sections; a control element; wherein the control element is configured to control the working of the warhead such that the first explosive section is detonated at a first time and a second explosive section is detonated at a second time; wherein the second time occurs prior to the first time; and wherein the detonation of the second explosive section results in an acceleration of the projectiles in a direction essentially parallel to the longitudinal axis.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any

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extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to REGINALD TILLMAN, JR whose telephone number is (571) 270-7010. The examiner can normally be reached on Monday to Friday 730 to 400.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Michael Carone can be reached on 571-272-6873. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Michael J. Carone/
Supervisory Patent Examiner, Art Unit 3641

/REGINALD TILLMAN, JR/
Examiner, Art Unit 3641

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